

REMARKS

Applicant respectfully notes that the claim amendments act to clarify or further limit the claims but do not act to introduce new matter into the claims.

Claim 1 as amended recites that the pellet body of the invention is operable to disperse within a drilling fluid directly upon introduction to the drilling fluid. Support for this description is found in multiple locations in the instant application as well as in the parent applications. An example is found in the parent application with Serial Number 09/360,558 in which it is stated on page 3, line 7 of the specification that it is an object of the invention to provide an additive that is quickly and efficiently distributed throughout the drilling fluid upon introduction. This is in contrast to the additive of Cremeans, US 4,217,965, where the shortcoming is that the cattle feed does not immediately break down upon contact with the mud but instead maintains its shape and structure as it is added to the mud. Ser. No. 09/360,558, p. 2, l. 26. A characteristic of the present invention is that the dense additive immediately begins to hydrate on contact with the drilling fluid. Ser. No. 09/360,558, p. 5, ll. 14-17. With the quick hydration, the dense additive promptly disperses such that the additive is uniformly distributed through the drilling fluid as the drilling fluid is pumped down the hole. Id. In general, prior art differs significantly from the instant invention in that most require that the lost circulation additive remain intact top side or in the mud pit and disperse, if at all, only once the additive has reached the zone that requires leakage control down hole. Prior art teaches that those additives designed to break-up down hole are ineffective if they disperse too quickly. Such references teach away from the present invention. Applicant's additive quickly disperses uniformly in the drilling fluid within the mud pit, which is where the additive is introduced to the drilling fluid. The claims have been amended to better clarify this feature of the invention.

Response to 35 U.S.C. § 112 Rejections

The Examiner states in office action dated June 20, 2002 that the specification fails to teach that the lost circulation material is "raw," stating that adding "raw" to the claims is new matter. The term "raw" and "untreated" are used interchangeably. Applicant repeats discussion on this point as it is not clear if previous remarks on this point were considered. The specification

includes at least two references to the use of a "raw" material for use in the present invention. These references can be found on page 10, lines 17 and 19. In addition to the disclosure of the use of raw materials, the supporting **Declaration of Ron Rose** entered on August 20, 2002 specifying that the term lost circulation and seepage control material is generally understood in the industry to indicate a material that is not chemically treated, also called "untreated". Such materials are always ground and mixed and may also be heated, but these steps are not chemical treatments. To indicate that an item is a lost circulation and seepage control material is to indicate that such material is in its raw state or chemically untreated. Thus, the terms "untreated" and "raw" as recited in the amended claim 1 make explicit the practice in the industry and by those of ordinary skill in the art to indicate a material in an untreated state by the use of such term.

It is to be noted that the term "untreated" or "raw," as used in connection with lost circulation and seepage control materials as well as rheological additives, is understood by those skilled in the art. It is appropriate to affirmatively indicate that such material has been "treated", if indeed it has been treated. It is also to be noted that once a material is treated, its properties may change and it may not act in the same way as the original starting material. For example, absorption properties could be modified and, in some cases, a pellet of treated material would not have the ability to break up on introduction into the mud pit. Chemical treatments may cause a reaction with other elements in the well bore. The oil well industry is intensely sensitive to any issue that might cause a termination or interruption of operations. A cessation of operations, for any reason, can give rise to losses of the order of hundreds of thousands of dollars within a very short period of time. As a result, any chemical treatment is explicitly acknowledged in this industry.

The Examiner indicates that Markush group expressions must follow a particular formula. Claims 2 - 10 and 12 have been amended to remove the term "essentially" from the Markush group language to meet the Examiner's requirement regarding this formality. This modification to meet formalities of style does not affect the scope of coverage of the claims.

Applicant respectfully submits that there is support for adding the term "raw" in Claim 1. The specification included two explicit references to the use of a raw material and the attached

declaration confirms that lost circulation materials are in an untreated state implicitly as understood by one of ordinary skill in the art. Applicant has amended the claims to conform to Examiner's suggested Markush group language style and claim preamble language. As such, Applicant respectfully submits that the reasons for the rejections based upon 35 U.S.C. § 112 are no longer present and the rejections should be withdrawn.

Response to 35 U.S.C. § 102(b) Rejections

Claims 1 – 11 and 13 have been amended to further distinguish the present invention from the cited references. As previously stated, the additive of the present invention is “untreated” or not chemically treated while those additives found in the other references are chemically treated. Other differences between the present invention and the cited references exist.

One significant difference between the instant invention and most of the other references is that each of the references cited, except for Wagener, requires that the lost circulation additive remain intact top side or in the mud pit and disperse, if at all, only once the additive has reached the zone that requires leakage control down hole. Those additives designed to break-up down hole are ineffective if they disperse too quickly. These references actually teach away from the present invention. Applicant's additive quickly disperses uniformly in the drilling fluid within the mud pit, which is where the additive is introduced to the drilling fluid. The claims have been amended to better clarify this feature of the invention. Support for this amendment can be found in the application on page 3, lines 15 – 16 (“It is an objective and a goal to provide an additive that is quickly and efficiently distributed throughout the drilling fluid upon introduction.”) and on page 6, lines 6 – 8 (“With the quick hydration, the dense drilling fluid additive promptly disperses such that the additive is uniformly distributed through the drilling fluid as the drilling fluid is pumped down the hole.”).

Bloys

It is the intent of Bloys to maintain the compressed sponge particles in the liquid fluid in the compressed state until they are circulated through the bore. The Bloys additive is separated from water until the sponge particles are in place by mixing the particles with a non-aqueous carrier liquid, such as a diesel fuel. If it is used in an aqueous drilling fluid, the carrier liquid is sent before and after the sponge particle and diesel mixture. When used with a non-aqueous drilling fluid, water is pumped behind the sponge particle and diesel mixture to provide the water necessary for expanding the sponge particles once they are in place (see abstract and col. 4, ll. 5 – 44). The sponge particles do not disperse directly upon introduction to (or contacting) the drilling fluid as recited in independent claims 1 and 15. As such, Bloys does not anticipate each element of claims 1 and 15 or the claims that depend therefrom.

Alexander '940 and '470

Alexander '940 specifically requires that "pellets essentially maintain their original size as the pellets pass through the wellbore to the site of lost circulation" (abstract). In Alexander '470, there is no disclosure related to dispersion of the additive upon introduction (or contacting) the drilling fluid, as recited in claims 1 and 15. Neither one of the Alexander references discloses each of the elements of these claims. Thus, Alexander '940 and '470 do not anticipate these claims, but rather, teach away from it.

Cremeans

It is the intent of the Cremeans disclosure to have a pellet that does not dissolve, but remains in tact to physically plug the formation through which a bore is being drilled. Cremeans states that it is an advantage of this mixture, which includes the surface-active agent, that the pellet does not break down immediately upon mixing. Since the pellets do not immediately break down and absorb large quantities of water, the viscosity of the drilling fluid remains low. Cremeans, Col. 5, ll. 20-27. Cremeans does not disperse directly upon introduction to (or

contacting) the drilling fluid as recited in claims 1 and 15. Accordingly, Cremeans does not disclose each element of these claims.

Wagener

The Examiner states that claims 1, 2, 5, and 8 - 12 are anticipated by Wagener, which teaches pellets of comminuted paper. Claims 1 and 15, as amended or presented, recite a non-chemically treated, or "raw", base material. Wagner, on the other hand, does not anticipate because paper itself is the product of a chemical treatment to wood pulp that may include caustic treatment and bleaching. Furthermore, the ground or shredded paper material is further treated in Wagener by spraying with water and a surfactant before compression (col. 3, ll. 13-17). As such, the paper material is chemically treated and is thus not "raw". Thus, Wagener does not treat a ground raw base material as recited in claims 1 and 15.

Armentrout '555 and '268

In Armentrout '268 (col. 2, ll. 15 - 27 and col. 4, ll. 16 - 28), the additive is pumped down hole and is carried to the location in which sealing is required. Penetration of the additive is delayed until the material approaches or has reached the location it is desired to seal in order to recover circulation. Armentrout '555 also requires that the additive pellets "be carried to the cracks or crevices for sealing prior to the centers of the pellets becoming completely wetted by the water in the drilling mud" (col. 1, ll. 51 - 54). Armentrout does not disclose an additive that operates to disperse directly upon introduction to (or contacting) the drilling fluid, as recited in independent claim 1 and 15.

Summary

The claims in the present application have been amended to further clarify and distinguish the present invention over the cited references. The additive of the present invention requires that the additive be operable to disperse directly upon introduction into the drilling fluid, prior to being pumped down hole. The additives of references, except for Wagener, require that the additives remain intact until they reached their destination. The additive in Wagener is not untreated or raw. An element of each of the independent claims 1 and 15 is missing in the cited references and as such the inventions in the cited references cannot anticipate these claims.

Additionally, these claims 1 and 15 are not obvious in view of the prior art. At best it can be said that there is a lack of a suggestion to combine prior art, and in many cases, as shown above, the cited references actually *teach away* from the invention as defined by claims 1 and 15. References that teach away cannot be said to make an invention obvious. Secondary considerations also make it clear that this invention is non-obvious. In spite of the long history of this industry and the massive amounts spent on research to improve performance and safety, there has been a long-felt need in the industry for the product and the method to create the product of this invention.

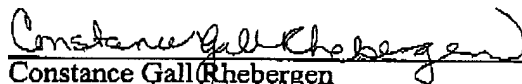
Claim 1 and 15, as amended and presented, are patentably distinguishable from the cited references. Claims 2 - 13 depend from claim 1 and claims 16-17 depend from claim 15 and as such, these dependent claims carry with them all of the distinctions of claims 1 and 15, as applicable, over the cited references discussed previously within this response.

In commenting upon the references and in order to facilitate a better understanding of the differences that are expressed in the claims, certain details of distinction between the references and the present invention have been mentioned, even though such differences do not appear in all of the claims. It is not intended by mentioning any such unclaimed distinctions to create any implied limitations in the claims. Not all of the distinctions between the prior art and Applicant's present invention have been made by Applicant. For the foregoing reasons, Applicant reserves the right to submit additional evidence showing the distinctions between Applicant's invention to be novel and unobvious in view of the prior art.

The foregoing remarks are intended to assist the Examiner in examining the application and in the course of explanation may employ shortened or more specific or variant descriptions of some of the claim language. Such descriptions are not intended to limit the scope of the claims; the actual claim language should be considered in each case. Furthermore, the remarks are not to be considered to be exhaustive of the facets of the invention, which render it patentable, being only examples of certain advantageous features and differences that Applicant's attorney chooses to mention at this time.

Reconsideration of the application and allowance of all of the claims are respectfully requested. In view of the foregoing Amendment, Applicant respectfully submits that all of the claims are allowable, and Applicant respectfully requests the issuance of a Notice of Allowance.

Respectfully submitted,



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